

# Restructuring streamlines Ministry

Elimination of one division and one branch, the transfer of two branches to other divisions and the absorption of several sections to other program-related branches are highlights of a Ministry of the Environment restructuring, which was announced in late January.

Effective now, the revision of Environment Ontario's organizational structure is to be completed by March 31st.

Environment's restructuring follows a Management Board directive to reduce Ministry complement by 34, including one senior management position, and reflects the Ontario Govern-

ment's efforts to combat inflation by reducing government expenditures and the size of the civil service.

The changes also are in accord with the recommendations of the Special Program Review Committee (Henderson Report) that all government Ministries and agencies review their organizational structures and reduce the costs of their administrative support services. The current reorganization is designed to provide a basis for these measures by instituting a lighter structure which will assist in avoiding duplication of staffing and activity.

"The staff of the Ministry responded admirably to the challenge of a major reorganization in 1974," said deputy minister Everett Biggs. "After a normal wearing-in period, our staff has been able to provide a high standard of service to the public without an increase in either complement or funds."

"I have every confidence that Ministry members will respond equally well to our current reorganization and will continue to be efficient and productive."

The restructuring meets the requirements of complement reduction and streamlines the Ministry

along more efficient, organizational lines. The complement reduction of 34 will be realized through staff attrition and the elimination of some current vacancies in addition to the changes resulting from restructuring.

The utility and laboratory services division is eliminated and its branches transferred to other divisions: laboratory services to the regional operations division and project co-ordination and resource recovery to environmental assessment and planning.

The technical services branch is eliminated and its sections transferred to program-related branches in other divisions.

The finance and administration division under executive director G. E. (Geoff) Higham is essentially unchanged with exception of the addition of certain sections from technical services to the administrative services

and personnel branches.

Two senior positions have been affected. W. B. (Brad) Drowley, assistant deputy minister of the utilities division, is reassigned to the environmental assessment and planning division as executive director, responsible for three branches.

T. W. (Tom) Cross, director of technical services, returns to the air resources branch, the field in which he is most-experienced and expert.

Sections and branches affected are transferred to other areas engaged in related programs and activities with result that the Ministry's services are consolidated into a compatible line organization which will assist in avoiding duplication of work and provide a more economic basis.

(For details of the new line-up see page 2 - restructure.)

## ENVIRONMENT ONTARIO LEGACY

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Environment Minister George Kerr receives bag of manure from environmental consultant Tony Barrett in front of Queen's Park as part of \$1500 garbage gamble to publicize waste reduction.

Photo courtesy The Toronto Star.

## MP's cut waste by 50 per cent in Great Garbage Gamble

Earlier this year a private environmental consultant bet Ontario Environment Minister George Kerr \$1500 he couldn't talk 31 Legislature colleagues into reducing their family garbage output by 50 per cent.

The consultant is losing his bet.

A spokesman from Mr. Kerr's office reports that he has signed up 25 MPPs including Premier William Davis and newly-elected Liberal leader Dr. Stuart Smith. For every politician Mr. Kerr signs up and who follows the rules through June 1 the consultant, Tony Barrett, gives up \$50. At stake is half of Mr. Barrett's \$3000 prize as winner of the 1975 White Owl conservation Award.

Neither bettor gains per-

sonally. The losses will go towards a special award fund for the best idea presented this year to reduce Ontario garbage at the source.

The rules of the bet stipulate that participants not use or buy soft drinks or milk in non-returnable containers. They are also required to bundle newspaper for separate collection, take waste glass and metal to recycling depots and compost all kitchen vegetable and yard waste.

To help them along the contestants were supplied with metal compost bins and bags of bull manure delivered by Mr. Barrett to Queen's Park in a haywagon January 19.

The manure was intended seriously. "I am doing my best to lose this bet," said Mr. Barrett.

## \$2.3 billion business this year

## Packagers warned of industrial suicide

"Your industry, if it continues to grow, is committing a form of suicide. To date you haven't been listening to government or to the consumer.... Why do you con-

tinue to grow without considering the future?" This hard-line statement was only one of many, made during a speech in London to the Western Ontario Chapter of

the Packaging Association of Canada by R. H. Woolvett. Mr. Woolvett is the chairman of Ontario's Waste Management Advisory Board, which reports to Environment Minister George Kerr.

Ontario consumers produce about 6.5 million tons of solid waste per year and the packaging industry is part of the problem, accused Mr. Woolvett in early February.

"Your industry expects to produce \$2.3 billion worth of packaging materials in 1976. More than 90 per cent of that production will be in the nation's garbage cans before the year is out."

The Advisory Board and Environment Ontario's concern stems from the fact that much of today's packaging represents a depletion and waste of energy and material resources, and adds to the province's solid waste disposal problem.

Mr. Woolvett praised the association's anti-litter campaign but warned that they could not rest on their laurels. He cited the beverage packaging industry as an example. Last year, the Minister of the Environment ordered the soft drink bottling industry to show substantial

(Continued on page 2 - packaging.)

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# Minister imposes controls on soft drink packaging

Ontario soft drink manufacturers face new controls on packaging.

In a January 1st announcement Environment Minister

George Kerr described new regulations effective immediately banning the use of plastic containers and all aluminum cans, as well as

non-refillable glass containers larger than 1.5 liters for carbonated soft drinks.

The regulations also set some limits to the use of steel or steel and aluminum pop cans, permitting only the 10-ounce size now in general use and the new 300-milliliter size to be introduced by industry this year.

The regulations under the Environmental Protection Act are in accordance with a recommendation of Ontario's Waste Management Advisory Board in a progress report on the industry issued last September.

"This regulation supports an announcement made by my predecessor William G. Newman last September when he was Minister of the Environment," said Mr. Kerr. "He expressed disappointment with the soft drink industry's progress in restoring the general use of refillable containers and announced that the steps implemented in this regulation would be taken."

Mr. Kerr said a deadline of March, 1976 has been set for effective action by the industry and that some key members of the industry, particularly one or two major retail chains, are not responding adequately.

"I intend to see that people who do not approve of non-returnable containers have a good and fair choice of refillables wherever and whenever they shop for soft drinks," said Mr. Kerr. "If I can't do this with the co-operation of all segments of the industry, then I will see that the Ontario government imposes a solution without the assistance of these few holdouts."

Effecting a solution by government regulation could include the following options:

1. Retailers who carry soft drinks in non-returnable containers could be required by regulation to carry the same brands and sizes in refillables.

2. A refundable deposit on all soft drink containers could be implemented whether or not the containers are refillable.

3. The consumer who wishes to use non-returnables could face a convenience tax — to pay for the privilege of discarding his containers.

4. The use of non-returnable pop containers of any sort could be banned entirely.

Apart from possible regulatory action, Mr. Kerr suggested that consumers could apply pressure of their own, particularly on the major retail chains who are reluctant to stock and sell refillable soft drink bottles. "If a sufficient number of customers refuse to buy their non-returnables, I am sure that that will help get the message across."

## Packaging (Continued from page 1.)

progress in returning returnables to the marketplace by March of this year or face government intervention. "When we talk about convenience packaging whose convenience are we talking about? The same consumer whose municipal and provincial taxes must pay for disposal of this waste? The same consumer whose supply of products he wants to keep and use is diminishing because resources and energy are literally being thrown in the garbage can?"

"As a believer in free enterprise I would like to see you make money. But I don't like to see it at the expense of my garbage bill, at the ex-

pense of my natural resources...."

There are three logical steps in coping with environmental problems created by excess packaging: reduce, reuse and recycle.

Cutbacks in the amount of material used per product is one solution, said Mr. Woolvett, and perhaps some of the products could be made reusable.

In summing up, Mr. Woolvett invited members of the industry to act on a packaging sub-committee of the Board. "I would like to learn more about your problems, your concern and your suggestions on how we can reduce our waste problems."

## Restructure (Continued from page 1.)

### LABORATORY SERVICES BRANCH

In the past, regional laboratories reported to the respective regional director while the main labs in Toronto were responsible to Mr. Drowley through director Gerry Ronan. In the new organization, all laboratories are part of J. R. (John) Barr's regional operations division. This transfer facilitates the staff requirements of regional labs as they come on-stream and avoids duplication of staff and services. The regional labs are responsible to director Ronan with respect to budgeting and staffing and to the respective regional directors on a day-to-day operating basis.

### RESOURCE RECOVERY BRANCH

The resource recovery branch is developing new techniques which will have a major effect on waste disposal practices throughout the province. It is transferred to the environmental assessment and planning division. This branch and those dealing with air and water programs are linked in the protection and conservation of natural resources. This alignment groups related protective and monitoring branches in the same division reporting to assistant deputy minister K. H. (Ken) Sharpe through executive director Drowley.

### PROJECT CO-ORDINATION BRANCH

The project co-ordination branch is moved to the environmental assessment and planning division, directly responsible to assistant deputy minister Sharpe. There is a firm relationship between this branch and two other branches in the division — environmental approvals and pollution control. The branches' activities focus on project planning, approvals and assessment and on abatement and control procedures and monitoring.

### TECHNICAL SERVICES BRANCH

The technical services branch sections are transferred to other branches responsible for related activities. Here is the new alignment:

Technical	Services	Transfer
<b>Section</b>		
— ground water development	to project co-ordination branch	
— instrumentation	to air resources	
— marine	to water resources	
— field services	to environmental approvals	
— training and certification	to personnel	
— safety officer from field services	to personnel	
— cartography and drafting	to administrative services	
— design and equipment selection	to environmental approvals	



Excess packaging is a burden on everyone including weekly shoppers.

## Briefly: From dumping to recovery

Permits are now required for the dumping of all material into any ocean bordering on Canada's territorial limit, announced Environment Canada late last year.

The act called the Ocean Dumping Control Act, will require permits for the dumping of all waste at sea, dredging, incineration at sea, the disposal of vessels and the disposal on ice. Permits will not be granted for the dumping of hazardous materials into any ocean.

This act is the result of the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (London Convention) in 1972. This convention has now been ratified by more than 15 nations.

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Used lubricating oil that causes persistent pollution problems when dumped into sewer systems or sprayed on gravel roads, has been found to be a suitable fuel for the cement industry. This was the result of an extensive test conducted by Environment Canada and the Ontario Ministry of the Environment at the St. Lawrence Cement Company in Mississauga, Ontario.

Waste lubricating oil could supply 15 per cent of the fuel requirements of the Canadian cement industry, which depends heavily on our limited resources of oil and natural gas. Cement plants are commonly located close to the urban centres, where large quantities of waste oil can be collected.

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The International Joint Commission's Great Lakes Water Quality Board is examining two major electrical power studies. The first study involves the examination of power concepts and alternatives for the years 1983-93 and beyond, including land use planning, electrical power planning, and public review processes.

The second study, conducted in the U.S., concerns nuclear energy systems with attention focused on the practicability and feasibility of the concept of nuclear energy centres.

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A technical seminar covering both Ontario's resource recovery program and recent advances in solid waste engineering will be held April 1 in Toronto. The seminar is sponsored jointly by the Ontario Ministry of the Environment and the Pollution Control Association of Ontario and is designed for engineers, pollution control managers, equipment suppliers and others interested in the solid waste field.

The one-day event will be held at the Ministry of Health Laboratories. Interested parties should contact R. Mondoux, Eimco Envirotech Canada, 5155 Creekbank Rd., Mississauga.



## Legacy interviews George A. Kerr

## There's a new man about the Ministry

The Honourable George A. Kerr Q.C. was appointed Minister of the Environment on October 17, 1975 but this isn't the first time that he has held the Environment portfolio. From June of 1969 to February 1972 he was Minister of the Department of Energy and Resources Management, which later became the present Environment Ministry. Since 1972 Mr. Kerr has also been Minister of Colleges and Universities and Solicitor-General.

In this exclusive Legacy interview, Mr. Kerr, Q.C. discusses Ministry policies and priorities.

**Legacy:** As the new Minister of the Environment what are your hopes for the Ministry?

**Mr. Kerr:** Our objective, really, is to keep the province as clean and as environmentally attractive as possible. I would hope that we don't keep getting into big problems year after year, such

little too long but this year the mercury cell process within the Dryden Chemical plant has been eliminated.

Now that there is a strike in the pulp and paper industry and about 10 mills are closed down, this is a great opportunity for us to analyze the condition of the water downstream from these plants and to see what objectives we should place on some of these mills. We have for the first time probably in 50 to 60 years a chance to find out how high the water quality downstream from the plant can be and then set our criteria accordingly.

I think we have also made a lot of progress in and around Sudbury during the last three or four years. Inco has spent a substantial amount of money and so has Falconbridge, in controlling their air emissions and there is definitely improvement in Sudbury. There are still areas we have to clean up and concentrate on but, all in all, the big problems that we had in the early 70s from Falconbridge and Inco are pretty well solved.

**Legacy:** What do you consider to be the major environmental problems of today?

**Kerr:** There are some long standing ones now. The type of contamination that we are getting from mercury and PCBs are things that require very drastic steps.

We don't know much about the extent of contamination. We know that certain species of fish contain mercury or contain PCBs but we're not absolutely sure where they are getting that poison or contamination and we aren't absolutely sure what we should do to combat it, outside of warning people that it exists and not to eat that fish type.

Other areas where we can and are taking definite action are in the areas of solid waste disposal, water pollution from industry and municipalities and air pollution from various sources such as the automobile.

Something that's much more on the scene now that it was four or five years ago is this business of industrial pollution, the health of workers in mines and plants.

Silicosis is on the scene more than ever now mainly because it takes a long time to develop within a person who's been employed in a certain type of work. We find that some people develop it after retirement age because it takes twenty years to develop into a health menace.

We have a hard time convincing people that we are doing something about health hazards. It is a very sensitive, emotional type of environmental problem. We always look rather cold and indifferent when we say we are studying it or we have a task force or the readings aren't that bad, when some youngster living in the neighborhood has been diagnosed as having some type of contamination or sickness as a result of living close to a particular type of plant. We've got to try to get ahead of the problem instead of reacting to it.

**Legacy:** Do you think your Ministry can get ahead of the problem?

**Kerr:** Yes, with the staff and the technology we have now and with the kids more and more involved in the field of pollution, hopefully, we can be ahead of all these new, insidious types of pollution that have been occurring recently.



in fish that while not above the safe level, are still there. What does this mean? It means for one thing that the mills we have pinpointed on the Wabigoon and English Rivers aren't responsible for the situation in the isolated areas. This further propounds and confuses this whole problem.

When I was the Minister earlier we sent a number of OWRC people to meet with scientists in Scandinavia. We got all kinds of opinions and as a result we sued Dow Chemical, with the idea of setting a precedent. If we are successful against Dow we can pretty well be assured of being successful against any other company. But, unfortunately, we haven't been making too much headway. I was hopeful that the case would be over and done with by 1975, settlements would have been made and we would be a long way along the road to providing compensation to those natives, the fishermen and others who are detrimentally affected by mercury contamination in fish. That hasn't happened.

Now, people say, well what about Dryden? Why didn't you sue Dryden Chemical? There is no question that the obvious liability with Dryden exists almost to the extent as the Dow situation. But, it doesn't make much sense to sue both companies until the first case is settled. The idea is to concentrate on one company and bring that to trial and a conclusion.

In the meantime we're telling the native people and the sportsmen not to eat the fish and we've closed commercial fishing, but in spite of our warnings, apparently the fish are still being eaten.

(Continued on page 10 — Kerr.)



as the ones we have had with mercury and PCBs. Sometimes, you wake up in the middle of the night having a nightmare, imagining that you're reading the morning paper which says that the Trent System, or the Detroit River, or the St. Clair River, or the Credit River or any of the lakes in this province is no longer fit to drink from, to swim in, to fish or to enjoy in the way we used to. It's hard to reverse once it happens. So we are watch dogs, and really, the tougher we are the better it will be for our grandchildren.

**Legacy:** In the early seventies when you were in office, you were trying to clean up various industries. Do you find any progress in the programs you started at that time?

**Kerr:** Yes, for example the chloralkali plants. They were responsible for most of the mercury that got into the environment and contaminated fish. We placed ministerial orders on this type of plant — mainly pulp mills that had chemical plants as part of their complex. Because they were concerned, probably as much as anybody, that they had caused this problem or that their process did this amount of damage, they were prepared to live up to the regulations we imposed on them four or five years ago. Some of them, like Dryden were a real problem. Frankly, we let it go probably a



**Legacy:** You haven't discussed mercury yet. We understand this is a very serious problem.

**Kerr:** There is no question that certain plants using mercury in their process were losing it in the receiving waters and that certain species of fish were contaminated, so that they are unsafe to eat. The whole matter of mercury poisoning is a very complicated thing and our knowledge is very slim. You may recall the situation in Japan in the late 1950s. Well, we were informed that this was a different type of mercury, that the people in Japan who were poisoned were those who ate raw fish as a regular diet and that the incident in Japan was the result of a substantial spill.

In northern Ontario, however, the loss resulted from the use of mercury in the manufacturing process and became part of the effluent that flowed into the stream. Now, we have the added complexity and confusion of the fact that in many isolated lakes and even rivers in northern Ontario and other parts of the country, we have mercury levels





# Environmental projects - from past to future

"We know now that there must be a complete change in human values and policies, and, if necessary, a shot-gun marriage between economics and the ecology, if we are to fully realize and practice the ethic that man must live in partnership with nature."

This was the summation to an environmental progress report delivered on behalf of Environment Minister George A. Kerr, in January, at Queen's University, Kingston, covering his Ministry's past activities, its present plans and future objectives. (Since Mr. Kerr was required to attend an emergency meeting in the Legislature, the speech was read during the University's lecture series, Nature, Science and Man, by Mr. D. P. Caplice, the director of the Ministry's environmental approvals branch.)

According to Mr. Kerr the person most responsible for alerting the public to our careless contamination of the environment was the late Rachel Carson. "Today, almost 15 years after publication of 'The Silent Spring', much credit must go to Rachel Carson for awakening the public to the fact that man's future depends on a partnership with nature," explained the Minister.

## WATER

Mr. Kerr then went on to explain Ontario's environmental programs. In 1956, the Ontario government established the Ontario Water Resources Commission to guarantee a good supply of drinkable water and to keep rivers and lakes free of pollution. More than \$2.5 billion has been spent by the Ontario government, he said, on water and sewage treatment during the past 20 years.

In addition, the Ministry has constructed and either operates or supervises more than 400 water and sewage facilities serving over 200 municipalities throughout the province.

In 1973, an international effort began to clean up pollution in the Great Lakes. "Ontario led the way in this pollution control program, sharing with Ottawa the \$250 million costs of new truck and sewage treatment facilities on the Great Lakes, with provincial monies administered by our Ministry," said Mr. Kerr.

To date, most of the Ministry's work has entailed the arresting of the deterioration of Lake Erie, Lake St. Clair and their connecting channels and, through secondary sewage treatment construction, cleaning up pollution in the lower lakes. The Ministry will soon sign an extended agreement with Ottawa, with greater emphasis placed on surveillance for toxic chemicals, control of offending polluters and on research into new treatment methods.

The lower Great Lakes are virtually free of phosphorus contamination since permanent phosphorus removal facilities are now in operation, or practically completed, at 200 sewage treatment plants. This program was part of the Canada-Ontario agreement for clean up of the Great Lakes.

However, the need for continuing work in the Great Lakes has been stressed lately with the discovery of new harmful materials in these waters.

## CHEMICALS

For example, PCBs, or as they are scientifically called polychlorinated

biphenyls, are man-made chemicals used in industry because of their stability and resistance to chemical and heat breakdown. These compounds are hazardous to certain species of wildlife and have adverse health effects on man. Although their use has been controlled, PCBs have recently been discovered in the Great Lakes. Environment Ontario is now working as closely as possible with Ottawa agencies at both technical and ministerial levels on all matters associated with the contaminant.

"PCBs are a lot like DDT," Mr. Kerr explained, "since both are extremely persistent and non-degradable." Ontario, the first province to do so, banned the use of DDT in 1970; therefore it was not an unusual move when last November Mr. Kerr served notice to the industries in Ontario that they find a suitable harmless substitute for PCBs.

Mercury is a similar problem. In the late 60s, when the hazard of mercury was discovered the Ministry initiated an all out program to determine the extent of mercury in the province and to provide effective controls. In 1972, the English-Wabigoon and St. Clair River Systems were closed to commercial fishing and by the end of '75 the discharge of mercury into Ontario lakes and rivers from known industrial sources, such as chlor-alkali plants, was stopped.

Mercury residues tend to stay in sediments at the bottom of rivers and lakes and it may take decades for the waters to purify themselves. However, six years of monitoring by the Ministry indicates a steady and significant improvement in mercury levels in Lake St. Clair fish.

## RECREATIONAL LAKES

Other activities within the water management program include monitoring of recreational lakes, inspection of private sewage systems and the orders for their improvement where necessary.

The Ministry has also introduced a self-help program for cottagers on 150 recreational lakes to sample for the presence of algae. In this way changes in water quality can be spotted in time to take remedial action.

## ENVIRONMENTAL PROTECTION

In 1972, all agencies and activities within the Ontario government concerned with protecting our natural

environment were amalgamated into one Ministry - Environment - and under the Environmental Protection Act, 1971, are able to launch a co-ordinated attack on all forms of pollution.

## AIR

Environment Ontario is also responsible for the overall quality of the air and since an alert system, called the air pollution index, which provides for a series of industrial cut-backs or shut-downs during adverse air quality conditions, was established in 1970, the air quality of Ontario's major cities has improved appreciably. Environment Ontario also operates over 900 air quality monitoring instruments across the province, which measure 30 known contaminants.

An amendment to the Environmental Protection Act in February, 1975 now permits local municipalities to enact bylaws to control noise pollution within their communities. The Ministry has prepared a model by-law and works with municipalities and individuals to train them in new noise measuring techniques.

## RESOURCE RECOVERY

A year ago, the Ministry also began a program to clear away the abandoned derelict motor vehicles in the province. "We've committed \$800 thousand toward this recovery program which involves 16 municipalities in the less densely populated areas of the province," said Mr. Kerr. The municipalities are initially subsidized by the government with the objective of their establishing their own long-term, financially self-sustaining programs in the future.

The Minister also explained his action with non-returnable bottles and beverage cans. The use of flip-top aluminum tabs and non-returnable containers larger than 1.5 liters have been banned and the soft drink industry has been given until March to come up with a solution for increasing the use of returnable containers.

The Ministry's Waste Management Advisory Board has been monitoring the progress of the soft drink industry and has also been asked to study the use of non-returnable wine and liquor bottles.

## PREVENTIVE ACTION

Mr. Kerr then said that the programs he had discussed so far were set up to deal with what might be

termed "after-the-fact" solutions to immediate problems. However, the Ministry's plans for the future deal with "preventive projects which will eventually save millions of dollars."

Mr. Kerr emphasized the fact that despite present economic restraints, the Ministry's budget has not suffered and that the Ministry intends to go ahead with its major priorities:

- reclamation of non-renewable resources from solid waste; extraction of heat and energy from garbage and the new environmental assessment act.

## WASTE MANAGEMENT

The first two areas are combined into one program, waste management, which will extend over a period of 15 years and involve an estimated expenditure by the provincial government of \$500 million.

The major benefits of the program will be these:

- inestimable tons of resource materials will be reclaimed, produced as new products and recycled through the economy;
- needed energy will be generated from the conversion of solid waste into fuel to run plants, generating stations and heating systems;
- landfill sites will be reduced by approximately 80 per cent.

The program will involve the development of reclamation centres across the province, said Mr. Kerr. In addition, staff are researching necessary treatment and reclamation methods and working with private industry to develop markets for the reclaimed material.

In partnership with Metropolitan Toronto the Ministry is also constructing an experimental resource recovery plant, the first of its kind anywhere, in North York. The plant is expected to be finished later this year and will cost the government \$10 million.

Also in co-operation with the Ministry of Energy, Environment Ontario is conducting an energy analysis of using garbage to fuel electrical plants, in place of coal. The project is called "Waste from Waste."

## ENVIRONMENTAL ASSESSMENT

The Minister concluded his address with remarks on the new legislation - the environmental assessment act, which is now awaiting proclamation.

"This legislation should enable us to detect a potential environmental crisis before it happens," said Mr. Kerr. Under the new act, the proponents of all major undertakings must draw up and submit to the environmental assessment board for approval an environmental assessment of their project. The public will be notified of the proposal, permitted to inspect the documents and make their own recommendations.

"In this way, the Ministry can carefully evaluate all the environmental and social considerations which can substantially change or even prohibit a project, before money is wasted and it is difficult to stop," said the Minister.

The Ministry is presently working on the regulations which will enforce the act. In the beginning, it will apply only to major undertakings of the Ontario government and its agencies, later it will be applied to municipalities and to the private sector.

## Sampling Sudbury snow...

In the vicinity of a Sudbury area smelter stack, Environment Ontario plant pathologist Peter McGovern collects a sample of snow for analysis. Samples have been taken three times this winter at about 20 locations in the Sudbury district. The snow is melted and the volume of liquid recorded and pH measured. Then the sample is divided with one half being tested for several metals and the other for elements such as sulphur, calcium, chlorine and sodium.







A grain terminal can be a dusty place to work. Here rail cars are being loaded at the Thunder Bay terminal.

## PCB manufacturing halted

The Monsanto Company of St. Louis recently announced that it intends to phase out its production of polychlorinated biphenyls (PCBs).

This statement has been greeted with relief from government and environmentalists. For PCBs, a man-made chemical hazardous to human health and certain species of wildlife, has been found in Great Lakes fish.

Environment Minister George Kerr said, "I am happy to see that the actions of this Ministry and other government agencies are being followed in this decision. Last November, I served notice on all industries in Ontario which were using this product to begin a search for alternate, harmless materials. I didn't feel that we should continue this senseless contamination of our environment."

Last October the Ontario Ministry of Health an-

nounced that high PCB levels had been found in Coho salmon taken from the Credit River and warned people to refrain from eating more than one meal per week of Great Lakes salmon.

Approximately 50 per cent of the samples showed levels of PCBs in excess of the existing U.S. guideline of five parts per million for human consumption. There had been no previous Canadian guideline but the Department of National Health and Welfare established a temporary guideline of two parts per million for PCBs in fish, in November.

PCBs were first developed in the 1920s and used in the manufacture of paints, printing inks, plastics and insulating fluid in electrical transformers. They are chemically related to DDT and until the late 1960s were confused with it in the chemical analysis. Their use has been controlled since 1970 and sales of the compound limited since 1972

because of their potential damage to health.

Monsanto is the only producer in North America. It voluntarily limited its sales in 1972 to use in totally enclosed systems, such as electrical transformers and capacitors. However, there is a possibility of leakage. In addition, there are still countless products containing PCBs, which were manufactured prior to '72. These items may still be in use or if discarded may be leaking or leaching their contents in garbage dumps.

All PCB users now return scrap or waste PCBs to Monsanto for disposal or ship them to the Chemtrol Disposal facility in Lewiston, New York.

## Grain elevators in Thunder Bay reduce dustfall

It's a dusty business - harvesting, transporting, cleaning, handling, storing and shipping grain. Imagine then the air pollution problems generated by the receiving and cleaning operations at the Canadian Lakehead Harbour in Thunder Bay. There, 21 grain terminals, with a storage capacity of over 100 million bushels await the arrival of grain from the prairies and then either store or load it into freighters for shipment around the world.

These grain elevators can receive, clean, store and ship over 500 million bushels of grain each year. In the past this operation has been responsible for adding 50 million pounds of dust to the atmosphere each year.

Not only was this visually displeasing, but people with severe respiratory problems can experience difficulties in breathing.

In 1972, the Ministry of the Environment issued a series of control orders to the six companies involved in an effort to cut down emissions. Phase I of a two part program, completed in 1974, reduced the dust emissions by 5 per cent. This phase involved the control of dust emissions from the roof vent systems of all grain elevators in the program and was essential for the implementation of Phase II.

While progress has been

made in the interim with Phase II, this phase has been slightly delayed because of strikes and unforeseen problems in equipment design and delivery and in construction. Phase II includes the installation of dust collection equipment to control dust emissions from all sources within the grain elevators. Negotiations between the Ministry of the Environment and the companies concerned has now resulted in agreement to have this phase completed in 1976 and 1977.

These measures will bring about compliance with the Environmental Protection Act and its Regulations by eliminating dust emissions from the workhouse areas, grain cleaners, transfer systems and railcar unloading areas. Dust in the air stream from these areas will be removed by means of approved cloth bag-filter devices. The grain dust can be pelletized into feed for fodder and since it has a protein content of 12 per cent, cattle seem to do well on it.

The only grain elevators in Thunder Bay which have not completed Phase I or begun Phase II of the program are those which are scheduled to close in the near future.

By 1977, when all of the grain elevators are thoroughly modernized as far as air handling operations, 99 per cent of the dust will be collected.

## UNESCO seeks assistance from Environment official

Ontario's progress in water quality studies is attracting world-wide attention.

With the aid of an official from Ontario's Ministry of the Environment, the United Nations Education, Science and Culture Organization (UNESCO) is now preparing a study of Lisbon's Rio Tejo Estuary.

The 15-mile-long estuary is now under study for general water quality including the effects of tidal cycles. One of the aims of the UNESCO study is to develop the estuary as a training model for water quality officials from under-developed countries.

Because of his involvement in Environment Ontario's inter-disciplinary study of Hamilton Harbour begun in 1972, Dr. Merv Palmer, head of the Ministry's lake system unit, was asked to join the study group.

From his one-week study of the Rio Tejo Estuary last November he will prepare the initial water quality study proposal to be submitted to UNESCO Paris this year.

"From the Ministry's point of view it is gratifying to know that we have developed our water quality studies in harbors and coastal regions to the extent that we are be-

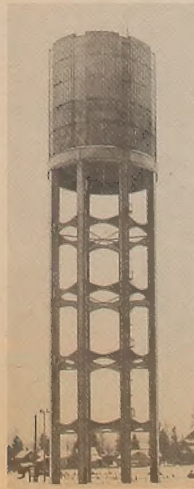
ing requested to make available our expertise to UNESCO in planning and executing similar studies in other parts of the world," said Dr. Palmer.



Dr. Merv Palmer points out the area of his water quality study for UNESCO - Lisbon's Rio Tejo Estuary.

## New design in tanks

Part of a recent \$3 million provincial water and sewage treatment construction project for the 1,800 residents of Caldwell Township between North Bay and Sudbury, this unusually designed water tank at Verner catches the eye of passing motorists. The provincially funded project, completed late in 1975, consists of two seven-acre sewage lagoons, a 233,000 Imperial gallon per day water treatment plant and the 125,000 gallon capacity elevated storage tank. Just two weeks before the new water system was completed, concern for the safety of the old wooden water tank was raised when fire in a nearby store buckled the tank's steel supports.





*Oh! how Northeastern's winds do blow!..*

## Sampling in the Icy North

The excitement of landing in a ski-equipped bush plane on the frozen surface of a wilderness lake. The frustrations of sample bottles that freeze and burst in seconds and testing gear that becomes inoperable in the sub-zero temperatures. All in a day's work for Environment Ontario employees involved in the winter schedule of a three-year Northeastern Region intensive monitoring program designed to study the variation in water chemistry between selected lakes and to compare the biological dynamics in acid and non-acid lakes.

Four lakes were selected. Kumska, Bigwood, Welcome and Landrie.

In the first two years, studies were carried out during all seasons to see how the geographical setting and the distance-direction from the smelting complexes in Sudbury affected area lakes.

In the final year, surrounding runoff effects are being investigated to determine what changes in a lake's pH and metals levels would be affected according to the type of loading of metal and sulphur compounds received from the surrounding watershed.

Findings to date indicate that lakes are influenced by their geographical location. That is, lakes closer to the major sulphide ore smelting industry at Sudbury and in the prevailing wind direction are more strongly affected.



Left:  
the  
sampl

Story and photos by Ray Gilbert and Ron Johnson

Far left: Station for measuring precipitation accumulations is checked by Environment Ontario staff Nels Conroy (left) Northeastern Region's water resources chief, biologist Claude Lafrance (centre) and technician Bob Girard. Middle: Water taken in Van Dorn sampler undergoes lab tests by technician Kip Hawley in Sudbury. Below: Claude Lafrance (right), directs pilot Rusty Blakey to land near a precipitation station on wilderness lake 50 miles north of Sudbury.



A Van Dorn sampler is lowered into lake. Samples were taken from three depth levels of four lakes under study. Above: Bob Girard and Claude Lafrance prepare to take water samples by drilling and chipping holes in the 15-inch ice.





The job is tough and dirty under 125 feet of solid rock.

## York-Durham project

# The boring work at a sewage treatment plant

A ruby beam from a laser lances through the dusty air down a long, dark tunnel.

A closed-circuit television camera mounted in a mine-shaft wall, focuses on a pit.

A giant drill drives its head forward to push a 12-foot circular tunnel 40 inches further into the shale, then braces its jaws and slowly pulls itself up to the drill head.

Outer space technology has entered inner space as the 10-foot outfall is prepared for the new Duffin Creek Sewage Treatment Plant in Pickering. When the plant, and the 70 miles of mains in the Ontario Ministry of the Environment's York-Durham sewage system is completed, a 10-foot concrete pipe will carry treated effluent 3,600 feet out into Lake Ontario for discharge.

That's when it's finished in October, 1976 — when the concrete is poured into the completed tunnel to form the giant concrete pipe — when the distribution net of smaller pipes is laid and connected by men working from the lake surface.

Right now, the project is a tunnel through shale 125 feet underground — a mineshaft driving 3,600 feet forward under the lake floor.

Under the direction of the Ministry's consultant on the project, Proctor and Redfern Ltd., the firm of S. McNally and Sons Ltd. is doing the tunnel work on the outfall. The company owns and operates the million-dollar

rock tunnel boring machine which is the key to swift completion of the tunnel.

It's an impressive machine — a 12-foot saucer of a drill face with claws and cutting wheels to bite into rock, a digestive conveyor that pulls shattered rock back to an ore car, clamps which brace against the tunnel walls to hold the machine, or hold the drill head steady and in place while the machine is catching up with it, and more than 1,000 electric horses of power.

It's too large to lower into working position as a unit. Three sections were eased into place and it was assembled in the tunnel.

The machine thrives on rock. In softer material — sand for example — it can bog down. There may be pockets of sand in its path, although so far, they have been avoided. These could force the tunnelers to back up the machine, cut a bypass tunnel and move other equipment in to pass through the new medium.

As the tunnel cuts its way along, two men on the drill head bolt steel braces across the roof sections at regular intervals. Like everyone else in the tunnel, they are clad in waterproof coveralls and hard hats — the hats because pieces of the ceiling can tumble down and the waterproof gear because it's wet there.

The drill head needs water for cooling as it chews up rock on the tunnel face. Then too, the tunnel passes

through a vein of water part way along its length. Nothing to worry about, though, the tunnelers say.

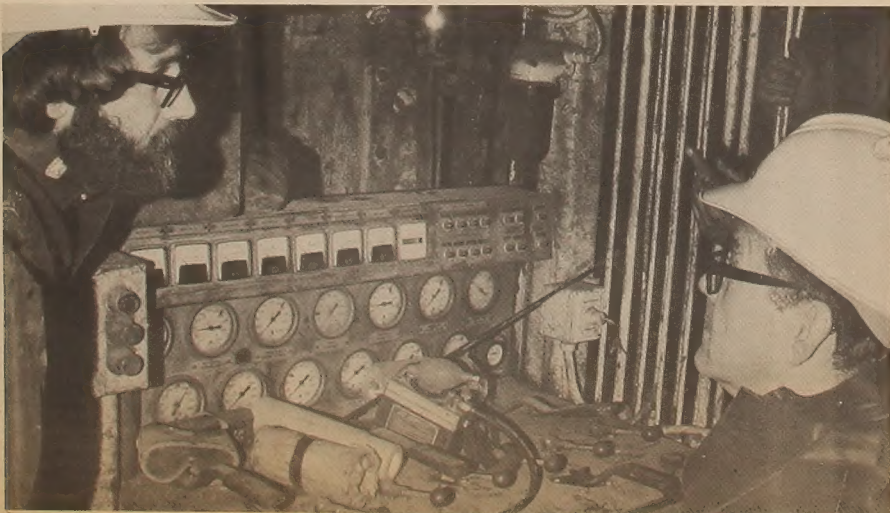
This unit alone takes a lot of the back-breaking work out of tunneling. The entire operation requires from seven to 11 men per shift and jackhammers and picks are used for minor, auxiliary work.

The ruby beam of a laser arrows down one side of the tunnel, passing through a grid braced on the side of the machine. It's a sighting unit, not the death ray of popular science fiction, and a very practical use for an instrument usually played with in laboratories. As long as the red beam is centred on the grid, the tunnel is on course.

Behind the drill machine, steel rail is installed in 30-foot sections. The sections are assembled on the surface and trucked into place as the tunnel moves into the shale.

This track carries an electric locomotive and a muck car — a long, open-top container which catches the shattered rock pushed back by the tunnel. It's remarkably like one of the trains that carry people through the Canadian National Exhibition grounds, with tons of rock replacing people as the load.

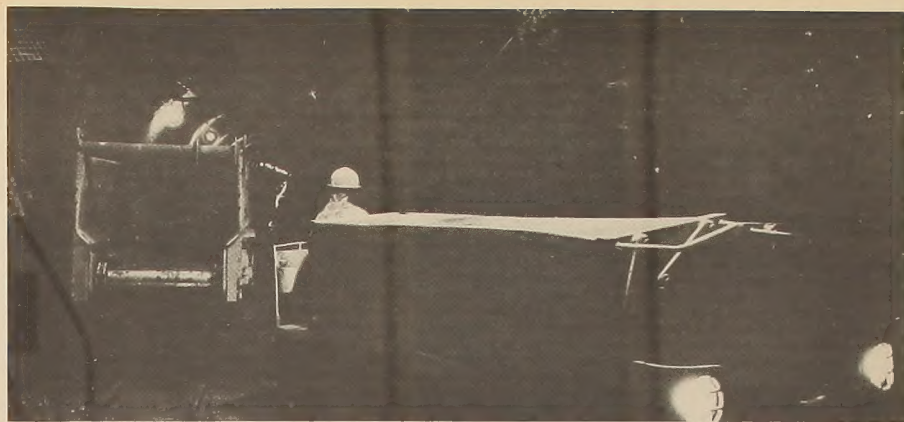
This train runs back and forth along the tunnel, with the locomotive switching aside just at the vertical shaft to let the muck car discharge its load into a pit.



Environmental assessment expert Bob Burdett, left, watches engineer Reg Monaghan set controls in cab of the tunneler.

ron johnson





hans eijseck

Above: a long, open-top muck car catches the shattered rock.  
Left: the crushed rock being loaded on a truck to be used to landscape surface.



"When they get the tunnel extended further, they may install a passing section of track, so they can run more than one train in the tunnel," said Reg Monaghan, an engineer for Proctor and Redfern Ltd.

A crane lowers a big clamshell scoop into the pit to lift the shattered shale to the surface. A video camera peers down from the wall of the vertical shaft. It shows, on a monitor in the crane cab, whether the pit is clear and safe for lowering the clamshell.

Once on the surface, the crushed rock does not go very far. "It's going to be used to landscape the treatment plant," Mr. Monaghan explained. "We intend to make it attractive and compatible with its surrounding."

The treatment plant — in fact the whole York-Durham project — has been consistently designed for minimum impact on the natural environment and minimum ill effect to the communities it serves.

Over the next 20 years, the system will provide basic services for the possible development of 170,000 new homes in the Regions of York and Durham.

Throughout the development of these services, the people already in these communities are being informed, consulted and involved in the decisions of the Ministry of the Environment, in constructing the most extensive service system in Ontario's history.



Workman bolts roof braces to vaulting arc of chipped shale.

ron johnson



# Staff out in the cold

Sometimes when staring out an office window onto a beautiful sunlit day, a person gets to envying those, whose jobs take them outside. But what if the day is overcast, below freezing and windy. We turn our backs, huddle closer to the radiator and work comfortably through a mound of paper.

Not so, an environmental technician.

Collecting water samples is a routine job for many Environment Ontario staff, regardless of the time of year. These samples provide basic information on water suitability, on pollution movement and distribution

and on the need for remedial and preventive waste management programs.

Ministry staff in Thunder Bay are involved in numerous water monitoring programs and they have long since learned the difficulties of collecting samples from rivers covered with ice and snow. Anything can happen — frostbite, trucks stuck in snow, ice-borders that refuse to work, or snowmobile controls that freeze-up.

As we've said before, these vital monitoring programs are not as easy as they look on paper.

One such study involves a coal terminal under con-

struction on McKellar Island within the city limits. Coal will eventually be brought in by rail from Western Canada, stockpiled and then used as fuel for hydro or shipped by freighter to the East.

Staff are taking samples on a regular basis from just offshore and from the Kaministiquia (Kam) and McKellar rivers to obtain pre-operational data. Future samples will determine what effects, if any, the terminal has on the surrounding water and remedial action can be taken.

If the roads are not ploughed out, it is a long walk to the designated monitoring stations, carrying the sample bottles and a heavy ice auger. And the winds sweeping across the rivers don't make the job easier.

Similarly, the same equipment must be taken to the stations above and below the outfalls of the pulp and paper mills on the Kam River.

The Ministry's regular monthly program involving the mills has continued despite the strikes at Abitibi and Great Lakes Paper. The testing undertaken during the mills' operation and their shutdown will provide valuable comparative data on just how much pollution can be attributed to these companies and how this effluent affects the surrounding water quality.

Incidentally, this is the first time in years that the Kam River has frozen over.



Environmental technician, Bruce Barber, prepares to drill hole in ice to obtain water sample.

## Gardening show comes in spring

Spring will come early to Toronto's Exhibition Park when the Spring Flower and Garden Show takes over the automotive building March 10-14.

Four acres of gardens will be on display, ranging from an exotic tropical to apartment balcony types. In addition to the numerous commercial exhibits, special displays will be set up by the Royal Botanical Garden, the Sierra Club, the Niagara Parks School of Gardening, Pollution Probe, the Royal Ontario Museum, the Ontario Ministry of the Environment and the Bruce Trail Association.

Theatre presentations will

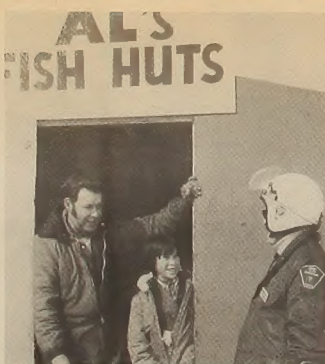
include a program on Japanese flower arrangements and films on the flowers of the far north and South Africa, among others. Informal sessions will provide information on such things as pruning, propagation and the raising of roses and bonsai trees.

Sponsors of the show, the Garden Club of Toronto, will allocate the proceeds of this year's show to assist the efforts of Metro Toronto's Civic Garden Centre, an information centre and horticultural library.

Ticket information is available from Mrs. H. G. Ronson, 265 Dawlish Ave., Toronto M4N 1J4; (416) 485-9850.

## Ice fishing brings out inspectors

This is the sixth consecutive season that ice-oriented activities have been part of Environment Ontario's regular winter program. Special consideration is given to ice huts on our recreational waters, to the sanitary requirements of the fishermen and to their litter control practices. Right: Inspector Walt Painting reminds Al Johnson and his daughter Wendy of the importance of removing their hut from the ice before spring break-up. Bottom: Inspectors Ron Wright (top) and Walt Painting (left) watch Mr. Johnson and Wendy fishing.



## Asbestos programs for Etobicoke plants

Major abatement programs are under way at two asbestos processing companies in Etobicoke.

Royal Industries Brake Division plant successfully completed an abatement program in late 1975. Flintkote Company of Canada Limited, manufacturers of floor tile and adhesive products, will have finished its improvements by late February of this year.

The Environment Ministry began monitoring air quality outside the two Etobicoke plants during the spring of 1975 to determine whether the asbestos emissions were within the Ministry's criteria (0.04 asbestos fibers per cubic centimeter for fibers over five microns in size).

Two samples from each plant were analysed by the Ontario Research Foundation and results submitted to the Ministry in late 1975. Both samples taken outside the Royal Industries Brake Division plant were found to be above the criteria.

Company officials installed a new baghouse to increase the capacity of their pollution abatement systems. A fume incinerator had already been installed in the spring of 1975 to control odours from the plant's operation. Now all known sources of asbestos emission contaminants are being treated by pollution control equipment within the company.

One of the samples taken outside the Flintkote Company was found to be 0.1 fibers per cubic centimeter while the other was within the Ministry's standard.

Inspection by Environment Ontario staff revealed several sources of dust emissions within the factory and emission of fumes from the plasticizer were exhausted directly into the atmosphere. Since the inspection, plant officials have redesigned pollution abatement devices, enclosed conveyor belts and bins and have improved plant housekeeping conditions.

## Kerr (Continued from page 3.)

ing eaten, particularly by sportsmen who don't feel three or four shoreside lunches during the fishing week will have too much detrimental effect on their health. The Indians who are working for them as guides feel that if the white man eats the fish, they can eat it too. They don't attach much importance to the fact that they are eating it as a regular diet.

**Legacy:** Right now we are in a period of economic restraint. Do you see the Ministry of the Environment taking a less firm stand with polluters.

**Kerr:** Well, it will be tougher. In 1969 and 1970 the economy of the province was in good shape. There had been neglect as far as our environmental programs were concerned, so it was easy to make an issue of it those days. But when you have a recession of any kind and when enforcing regulations or apply-

ing the law, means lay-offs and probably even plant closings, we can't be immune to it. Whether we are talking about banning the can or whether we are talking about suing a pulp company, the result isn't acceptable or popular if it means the loss of jobs. Sometimes though, I think that companies realize we are in a bind and try to capitalize on it. Companies are always appealing to us to relax our program and give them a little more time because their businesses aren't doing so well. We have to wrestle with our conscience, analyze our responsibility and see if we can in good conscience agree to some of the requests from industry. Hopefully we won't get into too many of those situations. I think there can be some reasonable consideration without defeating the objective of the program or the regulations.



# Toxicity conference gathering interest

A conference sponsored by Environment Ontario last fall showed that the study of toxic industrial effluents on aquatic organisms is gathering increasing interest.

More than 120 participants from government and industry met at the Ministry of the Environment's laboratory complex in Toronto for the second annual Aquatic Toxicity Workshop. The turnout for the two-day event represented double the number who attended last year's conference in Winnipeg. Gordon Craig, head of the Ministry's toxicity unit, explained the large turnout:

"There is a growing international concern for the standardization of bioassay procedures and the interest was reflected in the large response to our workshop which focused on those methods."

A bioassay is a controlled laboratory exposure of aquatic organisms (rainbow trout for example) to industrial, municipal or agricultural effluents and chemicals. These control methods enable industry and government to

determine the effects of these types of discharges on a wide range of aquatic organisms.

Mr. Craig said the establishment of rigid guidelines for bioassays and bioassay organisms has helped researchers from distant parts of the country compare research results. Various industries such as Inco in Sudbury, he said, find standardized procedure helpful in establishing their own bioassay laboratories.

Though the Ministry's toxicity unit contributed one-quarter of the 18 written presentations, one of its newer members found the workshop a particularly educational experience:

"For the presentation of analytical techniques, the informal workshop approach is the best," said Jim Reinke who joined the unit five months ago. After each 15-minute presentation a discussion period followed with delegates asking questions and offering suggestions.

Next year's Aquatic Toxicity Workshop is tentatively scheduled for Halifax.



Gord Craig, head of the Ministry's toxicity unit points out fish used in lab experiments.

## Watch the birdie, Cornwall

How do you improve a bird's toilet habits? The City of Cornwall would greatly appreciate an answer.

The girders of the international bridge spanning the St. Lawrence between Cornwall and New York State have become a popular roosting spot for pigeons.

Residents of the west end of the city are squawking about blotched cars, roof tops and windows. "I can't even go for a walk anymore," croaked one man.

There have been a number of suggestions to get the squatters to fly the coop. One was to apply a

high quality chrome paint to the girders. A pigeon flying by would see himself, think it's another pigeon, charge ahead to make love and break his neck.

It was, however, decided that pigeons aren't that birdbrained. Trapping and scaring have been tried. But the birds only flew to other areas of the bridge when they saw the snares and as for scaring—well pigeons aren't chickens.

While many residents want to get rid of the birds, others feed them scraps, thus egging them to stick around.

Somebody has got to get those pigeons to toe the line!

## Scientists ask support

Two environmental scientists have strongly urged more support for the Canadian Committee of the International Association on Water Pollution Research (IAWPR).

Dr. P. H. Jones, of the Institute for Environmental Studies at the University of Toronto, says more support is needed from Canadian member associations, which

the CCIAWPR collectively represents.

Dr. Jones says Canada has much to gain from the interchange of environmental research among IAWPR members. Although Canadian scientists have made important contributions to the association, he feels not enough attention has been

(Continued on page 12  
— Scientists.)



Environment Ontario's mobile automotive testing unit travels the province checking emission control devices on cars.

## Spot checks show tampering with pollution control devices

The one Ontario motorist in five who tampers with the pollution control devices on his car will suffer financially when he tries to trade his car.

The Ontario Ministry of the Environment issued this warning on the basis of a recent survey of used car dealers.

Ministry staff surveyed car dealers in southern Ontario during the past five months to conduct spot checks on pollution abatement equipment in used cars.

As a direct result of this program, dealers are now carefully inspecting trade-ins and if the emission control devices are not in good working order, they are reducing the trade-in allowance to cover the cost of repairs.

Since the start of the survey, nearly 500 cars have been inspected on 50 lots in southern Ontario—28 in Toronto and 22 in other communities.

Inspectors from the vehicle emissions section of the Ministry's air resources branch discovered that on 20 per cent of the vehicles tested the pollution control devices had been removed, disconnected or inactivated by the owner.

"In most cases the dealers were unaware of this fact and had received the cars in this condition," said Fred Taylor, vehicle emission engineer.

Automotive pollutants result from the incomplete combustion of fuel. Incomplete combustion produces carbon monoxide, hydrocarbons and oxides of nitrogen. The new emission control devices aid in a more complete combustion of fuel and thus reduce the amount of harmful pollutants emitted to the air. Tampering with the pollution control devices will upset the operating balance of the car and will reduce the fuel economy.

Loss of fuel economy for 1973 and 1974 model cars because of emission control devices has been estimated to be from 10 per cent to 16 per cent, compared to pre-con-

trolled 1967 models. In 1975 and 1976, mainly due to introduction of catalytic mufflers, reduction in fuel economy is estimated between 0 per cent and 12 per cent. Assuming an average loss of six per cent, average fuel consumption of 585 gallons and average gasoline price of 80 cents per gallon, the annual cost of extra gasoline consumed by an average 1975 model car is approximately \$27.

According to Ministry technicians, there are more important causes of decreased fuel economy on late model cars, including greater weight (by 15-20 per cent) and more power options. Air conditioning alone causes an average loss of nine per cent while the loss due to automatic transmissions is estimated to be six per cent.

The addition to the overall cost of 1976 model cars because of emission control devices is estimated to be between \$200 and \$350, depending on type of control system and on engine size and performance.

Attempts to render control systems partially or fully inoperative result as a rule in increases of some or all of the main pollutants. A Ministry of the Environment survey of 29 cars with air injection systems disconnected indicated that as a result of this tampering, hydrocarbon emissions increased by an average of 110 per cent and carbon monoxide emissions increased by 140 per cent.

The spot check program is part of an extensive auto emission program carried out by the Ministry since 1971 when the control of air pollution from motor vehicles became a joint federal-provincial responsibility. The federal government establishes emission standards for new vehicles and enforces them at the manufacturing level. The Ontario government is responsible for the control of the emissions from the vehicles have been sold. The joint federal-provincial

controls now results in 1975 model cars emitting only 20-25 per cent of the original uncontrolled levels of pollution.

Used car dealers have co-operated fully with the spot check program. Ministry staff are confident that the dealers' increased inspection and the resulting reduction in trade-in allowances will lead to a substantial decrease in emission control device tampering. The spot check will be continued as a regular part of Ontario's auto emission program.

## Federal standard announced for auto exhausts

The Canadian automobile exhaust emission standards in effect for 1975, 1976 and 1977 will remain unchanged until 1980, with two possible changes being considered for 1978.

The federal government's announcement was made this year so that manufacturers will have economical lead times in which to make firm plans for future Canadian automobiles.

The two changes under examination are an upper limit on the amount of carbon dioxide in the exhaust at idle, even when the carburetor is out of adjustment, and a requirement for the manufacturer to indicate on the specification label, in the engine compartment, the level of exhaust emissions at idle for that type of engine in good tune.

The refinements would result in reduction of both pollution and the amount of fuel wasted by poorly tuned vehicles.

While less stringent than the U.S. regulations, the Canadian standards have reduced approximately 75 per cent of the hydrocarbon and carbon monoxide emissions from uncontrolled automobile engines.



# 5-year environment plan signed

An accord for the protection and enhancement of environmental quality was signed between the Ontario Ministry of the Environment and Environment Canada last October. Environment Ministries from Alberta, Saskatchewan, Manitoba, New Brunswick, Prince Edward Island and Nova Scotia are participating in this agreement also.

The accord calls for a broad framework which will enable the provincial and federal governments to work effectively together to identify potential environmental problems, find solutions and avoid duplication of effort.

The accord varies slightly between the provinces, but not in matters of substance. It extends for five years and provides for revision and renewal. Subsidiary agreements can be signed to cover particular environmental concerns.

Canada and the signing provinces have agreed to:

- Determine and establish desirable levels of baseline environmental quality.
- Develop national requirements and guidelines for pollution control by industry and municipalities.
- Consult on methods of monitoring environmental quality and exchanging assessment data.
- Implement pollution control programs.
- Develop contingency plans to deal with environmental emergencies, such as oil spills.
- Co-operate in research, exchange of technique, and staff training.
- Share costs for joint programs.

The agreement provides for the free and complete interchange of information and for the mutual adoption of objectives to the effect that goals adopted by one party would become goals of the other party.

The idea for a federal-provincial accord was generated by Everett Biggs, Environment Ontario deputy minister, and Robert Shaw, the former federal deputy minister, following the United Nations Conference on the Human Environment held in

Stockholm in June, 1972. It was realized at this conference that environmental problems can best be attacked domestically and locally through co-operation at all levels of government.

Mr. Biggs and Mr. Shaw foresaw the formation of a federal-provincial accord which would not only serve the needs of Ontario and the federal government but also stand as an example to the other provinces.

"When Robert Shaw and I returned from Stockholm," said Everett Biggs, "we asked our respective staffs to work together on a new mechanism which would co-ordinate the environmental objectives of our two levels of government."

"We wanted to ensure that federal and provincial programs could be undertaken in such a way that they would be economical, comprehensive and provide complementary action. Duplication was to be avoided."

"Environment Ontario's Bill Steggle and John McTavish, then with the federal government and now with the Government of Nova Scotia, worked on the draft. When an outline was complete, we presented it to the federal Minister of the Environment and to the Ontario Minister. They began a series of informal talks out of which came the accord."

The accord was also recommended for adoption by the Ontario Task Force on the Human Environment, which was set up in response to the findings of the Stockholm Conference.

In June 1975, Mme Jeanne Sauve, then federal Minister of the Environment, and the Environment Ministers from across Canada met in Edmonton to discuss the federal-provincial accords.

A Canada-Ontario committee will oversee the implementation of the accord in Ontario, consult on environmental matters and recommend individual agreements when needed. Cost-sharing for joint programs of data gathering, assessment, research and design will be effected on 50/50 basis except in special circumstances where other proportions are indicated.



Ontario Minister of the Environment George Kerr and Jeanne Sauve, former federal Minister of the Environment, signed an accord for the protection and enhancement of environmental quality last October.

## Environment Ontario assists Hamilton's SWARU project

The Regional Municipality of Hamilton-Wentworth has been awarded \$300,000 by the Ontario Ministry of the Environment to help put the region's pioneer waste handling project back on its environmental tracks.

The Solid Waste Reduction Unit, or SWARU as it is commonly called, was built by the City of Hamilton in 1970 at a cost of \$8,000,000. Designed to burn garbage and produce steam as well as separate metal, the unit has experienced engineering problems since its doors first opened in 1972.

"SWARU, was the first plant of its kind in Ontario and it certainly fits into my Ministry's multi-year solid waste management plan," said Environment Minister, George Kerr. "Environment Ontario funds will be used to upgrade the system to improve safety and operating reliability so it will be possible to better explore the marketing of steam as an energy source."

"To date the problem with the plant has been that it chokes on its own garbage and has been unable to produce steam on a reliable basis for industrial heating uses," said Wes Williamson, director of Environment On-

tario's resource recovery program. "This grant will be used in part to build a conveyor belt to bypass a large storage tank that continues to malfunction despite major efforts to correct the situation. The new feeder system will eliminate this problem."

Ministry officials met with regional representatives in late 1974 and agreed to look at the SWARU operation as part of the Province's resource recovery program in the Hamilton-Wentworth area.

A consultant firm was employed to review the region's solid waste management plans and to study the SWARU project. The firm, under the guidance of a technical co-ordinating committee composed of Environment Ontario staff and regional technical staff, submitted an interim report to the region. This report included a cost evaluation of SWARU's initial needs amounting to \$235,000 plus engineering costs.

Late last year, Anne Jones, chairman of the Regional Municipality of Hamilton-Wentworth presented Environment Minister George Kerr with a resolution from council requesting provin-

cial funding for the modifications to the SWARU plant. In January of this year, after final approval was given for the allocation of the funds by the Ontario Government's Management Board, Hamilton-Wentworth was given the needed \$300,000.

"I'm pleased to help the regional municipality with its funding for improvements on the SWARU plant," said Mr. Kerr. "The plant should form an integral part of the handling of solid waste in the Hamilton-Wentworth region and I'm convinced that with our funding and the region's determination, this plant will greatly help with our solid waste problems and in addition assist this province in seeking other alternatives to oil as an energy source."

The Regional Municipality of Hamilton-Wentworth will assume responsibility for administration of engineering construction and operation of the modifications to the SWARU plant. The technical co-ordinating committee which was established to oversee the consulting firm's study will be responsible for approving the expenditure of funds for the engineering and capital costs involved in the project.



Ministry  
of the  
Environment  
Ontario

Hon. George A. Kerr  
Minister  
Everett Biggs,  
Deputy Minister

## Scientists

(Continued from page 11.)

given to directing overseas findings to Canadians, an important IAWPR benefit largely ignored.

The association has already sponsored conferences in London, Tokyo, Munich, Prague, San Francisco, Jerusalem, and Paris and its next one is scheduled for October,

1976, in Sydney, Australia.

The president-elect of the Pollution Control Association of Ontario, Dr. J. D. Norman, says most of the member associations of the Canadian Committee have made meagre financial contributions. IAWPR membership could bring many benefits to Canadian industry.

The results of much overseas research could save money for certain industries as well as significantly enriching Canadian research activity, he adds.

Dr. Norman is president of Pollutech Pollution Advisory Services Ltd. and a former associate professor at McMaster University.

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